WHAT IS CLAIMED IS:

1. A data management system, comprising:

a nonvolatile semiconductor storage section including a plurality of blocks capable of storing data, the data being erasable by units of a block;

a storage control section for controlling a storage operation of the nonvolatile semiconductor storage section;

a data management system control section for processing data to be stored in the nonvolatile semiconductor storage section; and

a data management system memory section for storing management data which is referred to by the data management system control section,

wherein the data management system control section performs data management by: dividing the data into data segments by units of a sector which is a logical unit for data management; storing data link information which indicates the ordinal relationship of the data segments, together with the data segments, in the nonvolatile semiconductor storage section via the storage control section; and storing, as link information in each sector, information about immediately-previous and

immediately-subsequent data storage sites.

2. A data management system according to claim 1, wherein the data link information has number information for logical management which is allocated by the data management system control section to the block.

3. A data management system according to claim 2, wherein the number information includes at least a logical block number and a logical sector number.

4. A data management system according to claim 1, wherein the data link information has number information for physical management which is allocated by the data management system control section to the block.

5. A data management system according to claim 4, wherein the number information includes at least a physical block number and a physical sector number.

6. A data management system according to claim 1, wherein: the data link information includes:

data where all the bits are in a bit state that indicates that a block is erased, as information about

the immediately-previous data storage site for a leading data segment of the distributed data segments; and

data where all the bits are in a bit state that indicates that a block is erased, as information about the immediately-subsequent data storage site for a last data segment of the distributed data segments.

7. A data management system according to claim 6, wherein the data link information further includes an error-correcting code for error-correcting the information about the immediately-previous data storage site and the information about the immediately-subsequent data storage site.

8. A data management system according to claim 7, wherein the error-correcting code is a Hamming code.

9. A data management system according to claim 6, wherein the data management system control section includes:

a section for searching a leading sector of data corresponding to an ID number supplied by the application program or operating system and comparing information about an immediately-previous data storage site of data link information stored in the leading sector with data

where all the bits indicate a state where a block is erased; and

a section for informing, when the comparison result is negative, software such as an application program or an operating system that there is an error in the data link information.

10. A data management system according to claim 9, wherein the data management system control section includes:

a section for searching a leading sector of data corresponding to an ID number supplied by software, such as the application program or operating system, and when the last sector is referred to while sequentially following, from the leading sector, information about immediately subsequent data storage site included in data link information stored in each sector, comparing information about an immediately-subsequent data storage site of data link information stored in the last sector with data where all the bits indicate a state where a block is erased; and

a section for informing, when the comparison result is negative, software such as an application program or an operating system that there is an error in

the data link information.

11. A data management system according to claim 9, wherein the data management system control section includes a section for correcting information about a data storage site to correct information by using an error-correcting code when any discrepancy exists between the information about data storage sites.

12. A data management system according to claim 6, wherein the data management system control section includes:

a section for searching a leading sector of data corresponding to an ID number supplied by software, such as the application program or operating system, and when the last sector is referred to while sequentially following, from the leading sector, information about immediately subsequent data storage site included in data link information stored in each sector, comparing information about an immediately-subsequent data storage site of data link information stored in the last sector with data where all the bits indicate a state where a block is erased; and

a section for informing, when the comparison

result is negative, software such as an application program or an operating system that there is an error in the data link information.

13. A data management system according to claim 1, wherein the data link information further includes an error-correcting code for error-correcting the information about the immediately-previous data storage site and the information about the immediately-subsequent data storage site.

14. A data management system according to claim 13, wherein the error-correcting code is a Hamming code.

15. A data management system according to claim 1, wherein the data management system control section manages correspondence between an ID number supplied by software, such as an application program or operating system, and a leading data segment of the distributed data segments such that data stored in the nonvolatile semiconductor storage section can be identified by the ID number.

16. A data management system according to claim 1, wherein the data link information includes a plurality of data link information having the same content.

17. A data management system according to claim 16, wherein the data management system control section includes a section for confirming for each distributed data segment, by using each pair of data link information, when at least the data link information is referred to, whether or not any discrepancy exists between information about an immediately-subsequent data storage site which is stored in each sector and information about an immediately-previous data storage site which is stored in a next sector appointed by the information about the immediately-subsequent data storage site.

18. A data management system according to claim 17, wherein the data management system control section includes a section for correcting a plurality of data link information having the same content when the content involves any discrepancy, such that data involving the discrepancy is corrected by using data involving no discrepancy.

19. A data management system according to claim 16, wherein the data management system control section includes a section for: confirming, when one of the plurality of link information having the same content is referred to, by using a pair of data link information, whether or not any discrepancy exists between information about an immediately-subsequent data storage site which is stored in each of distributed sectors and information about an immediately-previous data storage site which is stored in a next sector appointed by the information about the immediately-subsequent data storage site; and performing the confirmation by using another pair of data link information if any discrepancy exists.

20. A data management system according to claim 1, wherein the data management system control section includes a section for confirming for at least each distributed data segment, when the data link information is referred to, whether or not any discrepancy exists between information about an immediately-subsequent data storage site which is stored in each sector and information about an immediately-previous data storage site which is stored in a next sector appointed by the information about the immediately-subsequent data

storage site.

21. A data management system according to claim 20, wherein the data management system control section includes a section for: referring, for the purpose of confirming whether or not any discrepancy exists between information concerning data storage sites, to data appointed by information about an immediately-subsequent data storage site which is included in data link information of one of distributed data segment; and comparing information about an immediately-previous data storage site of data link information stored in an immediately-subsequent sector with information about an immediately-previous data storage site.

22. A data management system according to claim 1, wherein the data management system control section includes a section for informing software, such as an application program, operating system, etc., when a plurality of data link information having the same content have any discrepancy in the content.

23. A data management method, comprising a step of storing in a nonvolatile semiconductor storage section, together

with each of data segments that are distributed to sectors each of which is a logical data management unit, data link information indicating an ordinal relationship of the data segments based on which the data segments are distributed to the sectors and having information immediately-previous and immediately-subsequent data storage sites for each of the data segments distributed to the sectors.

24. A data management method according to claim 23, further comprising steps of:

searching a leading sector of data corresponding to an ID number supplied by the application program or operating system and comparing information about an immediately-previous data storage site of data link information stored in the leading sector with data where all the bits indicate the state that a block is erased; and

informing, when the comparison result is negative, software such as an application program or an operating system that there is an error in the data link information.

25. A data management method according to claim 24, further comprising steps of:

searching a leading sector of data corresponding to an ID number supplied by software, such as the application program or operating system, and when the last sector is referred to while sequentially following, from the leading sector, information about immediately subsequent data storage site included in data link information stored in each sector, comparing information about an immediately-subsequent data storage site of data link information stored in the last sector with data where all the bits indicate the state that a block is erased; and

informing, when the comparison result is negative, software such as an application program or an operating system that there is an error in the data link information.

26. A data management method according to claim 24, further comprising a step of correcting information about a data storage site to correct information by using an error-correcting code when any discrepancy exists between the information about data storage sites.

27. A data management method according to claim 24, further comprising a step of informing software, such as application program, operating system, etc., when a

plurality of data link information having the same content have any discrepancy in the content.

28. A data management method according to claim 23, further comprising steps of:

searching a leading sector of data corresponding to an ID number supplied by software, such as the application program or operating system, and when the last sector is referred to while sequentially following, from the leading sector, information about immediately subsequent data storage site included in data link information stored in each sector, comparing information about an immediately-subsequent data storage site of data link information stored in the last sector with data where all the bits indicate the state that a block is erased; and

informing, when the comparison result is negative, software such as an application program or an operating system that there is an error in the data link information.

29. A data management method according to claim 23, further comprising a step of confirming for at least each distributed data segment, when the data link information is referred to, whether or not any discrepancy exists

between information about an immediately-subsequent data storage site which is stored in each sector and information about an immediately-previous data storage site which is stored in a next sector appointed by the information about the immediately-subsequent data storage site.

30. A data management method according to claim 29, further comprising steps of:

referring, for the purpose of confirming whether or not any discrepancy exists between information concerning data storage sites, data appointed by information about an immediately-subsequent data storage site which is included in data link information of one of distributed data segment; and

comparing information about an immediately-previous data storage site of data link information stored in an immediately-subsequent sector with information about an immediately-previous data storage site.

31. A data management method according to claim 23, further comprising a step of confirming for each distributed data segment, by using each pair of data link information, when at least the data link information is

referred to, whether or not any discrepancy exists between information about an immediately-subsequent data storage site which is stored in each sector and information about an immediately-previous data storage site which is stored in a next sector appointed by the information about the immediately-subsequent data storage site.

32. A data management method according to claim 31, further comprising a step of correcting a plurality of data link information having the same content when the content involves any discrepancy, such that data involving the discrepancy is corrected by using data involving no discrepancy.

33. A data management method according to claim 23, further comprising steps of:

confirming, when one of the plurality of link information having the same content is referred to, by using a pair of data link information, whether or not any discrepancy exists between information about an immediately-subsequent data storage site which is stored in each of distributed sectors and information about an immediately-previous data storage site which is stored in a next sector appointed by the information about the

immediately-subsequent data storage site; and

performing the confirmation by using another pair of data link information if any discrepancy exists.

34. A data management method according to claim 23, further comprising a step of informing software, such as application program, operating system, etc., when a plurality of data link information having the same content have any discrepancy in the content.